

## Typification of Dr. Tomitaro Makino's Botanical Names (4)

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As part of a series of studies on the typification of botanical names published by Tomitaro Makino, proposals for the lectotypification, neotypification and the verification of other type materials for taxa in the Gentianaceae are presented here.

(Continued from J. Jpn. Bot. 81: 275–277, 2006)

**Key words:** Gentianaceae, lectotypification, neotypification, nomenclature, Tomitaro Makino.

The authors have been verifying the scientific names that Tomitaro Makino gave to numerous Japanese plants and thus far several families have been treated (Tanaka 2005a, 2005b, Tanaka and Sugawara 2006). This paper is presented as the fourth in the series proposing the lectotypification, neotypification or otherwise providing verification of the status of potential type material, for eight taxa, *Gentiana iseana*, *G. japonica* var. *kawakamii*, *G. yakushimensis*, *G. pseudohumilis*, *Swertia bimaculata*, *S. kuroiwai*, *S. tosaense*, *Swertopsis umbellata* in the Gentianaceae. The herbarium abbreviations cited in this paper follow Holmgren et al. (1990).

### GENTIANACEAE

**Gentiana ×iseana** Makino in J. Jpn. Bot. 4(2): 8 (1927).

**Type:** Prov. Ise (Mie Pref.): Yamada, on hill (Watarai County), 1924, T. Makino s. n. (MAK 4716—holotype; MAK—isotype).

Japanese name: Ise-rindō (Makino 1927).

This sheet was also determined by K. Hiyama in 1959 as *G. ×iseana*. This taxon is

considered to be a natural hybrid between *G. sikokiana* Maxim. and *G. scabra* Bunge var. *buergeri* (Miq.) Maxim. ex Franch. et Sav. These types can also be seen on the Makino Herbarium website (Makino Herbarium 1999).

**Gentiana nipponica** Maxim. var. **kawakamii** Makino in Bot. Mag. Tokyo 17: 212 (1903).

**Lectotype** (designated here): Prov. Kitami (Hokkaido): Mt. Rishiri (misprinted as “Kishiri” in the original publication) in Rishiri Isl., Aug. 1899, T. Kawakami s. n. (MAK 205131).

Japanese name: Miyama-rindō.

Makino cited two specimens but only Kawakami’s specimen was found in MAK; this is chosen as the lectotype here. Makino (1904) later treated this variety as a distinct species, *G. kawakamii* (Makino) Makino. However, this taxon is currently accepted as *G. jamesii* Hemsley.

**Gentiana yakushimensis** Makino in Bot. Mag. Tokyo 23: 252 (1909).

**Lectotype** (designated here): Prov. Osumi (Kagoshima Pref.): Summit of Mt. Miyanouradake in Isl. Yakushima, Aug. 1909, Y. Kudo s. n. (TAI 119075; TI-photo).

**Syntype**: Mt. Miyanouradake in Isl. Yakushima, Sept. 1909, T. Makino s. n. (MAK 178807).

Japanese name: Yakushima-rindô (Makino 1909).

Makino (1909) cited two specimens in his original protologue. However, of these, Makino's specimen is sterile, and so it is not likely that he based his description of *G. yakushimensis* on this material. Although the date of the collection is not recorded on the specimen, notes in his personal dairy (which is kept in library at the Makino Botanical Garden) reveal that Makino stayed in Miyanouradake from 3 to 8 September, 1909. This material was probably collected during that period.

On the other hand, the Kudo specimen is housed in TAI and is marked with the seal "type". Since this specimen is much more characteristic than the Makino specimen at MAK, the Kudo specimen is selected as a lectotype.

**Gentiana pseudohumilis** Makino in Bot. Mag. Tokyo **18**: 16 (1904), ut "pseudohumilis".

**Type**: Prov. Shinano (Nagano Pref.): Mt. Yatsugatake, July 27, 1903, H. Takeda & S. Kawada s. n. (MAK 178687—holotype; MAK178688—isotype).

Japanese name: Hina-rindô (Makino 1904).

Two sheets were cited in Makino's original protologue, both of which are housed at MAK. One sheet bears Makino's original label with collector's name and locality, and is marked "Herb. T. Makino". There is a paper note attached to the other sheet on which "*Gentiana pseudohumilis* Makino" is written in Makino's handwriting. There is no doubt that these two sheets are of the same

collection, and constitute the holotype and isotype of this taxon. This name is currently widely regarded as synonymous with *G. aquatica* L.

**Swertia bimaculata** (Siebold & Zucc.) Hook. f. & Thomson ex C. B. Clarke var. **impunctata** Makino in Bot. Mag. Tokyo **24**: 16 (1910).

**Type**: Rikuchu (Iwate Pref.), Tengu-mori in Yanagawa-mura, Sept. 29, 1907, T. Someya s. n. (MAK 255913—holotype).

Japanese name: Funashi-akebono-sô (Makino 1910).

Makino first described this variety in Botanical Magazine Tokyo in 1910 as cited above. However, he published this taxon as a new variety again at a later date (Makino 1929). This can only be considered a mistake, and the original protologue is regarded as that published in 1910. Makino cited only a single specimen and this was found in MAK. Hence, this is automatically considered to be the holotype. This taxon is currently accepted as *S. bimaculata* (Siebold & Zucc.) Hook. f. & Thomson ex C. B. Clarke f. *impunctata* (Makino) Satake. The holotype can be seen on the Makino Herbarium website (Makino Herbarium 1999).

**Swertia kuroiwai** Makino in Bot. Mag. Tokyo **17**: 53 (1903).

**Neotype** (designated here): Isl. Nakanoshima, 1890, Y. Tashiro s. n. (MAK 255916).

Japanese name: Rhyukyu-akebono-sô. Makino cited a single specimen (Loochoo: Yontanzan, Okinawa Isl., Dec. 1895; Kuroiwa s. n.) in his original protologue. However, this has not been discovered. He also cited some additional specimens as *S. kuroiwai* in a later publication (Makino 1904). Among them, the Nakanoshima specimen collected by Y. Tashiro is deposited at MAK. Apart from this specimen, none of the other cited specimens have been

discovered at either MAK or TI, the herbaria most likely to hold Makino's type collections. Although this specimen has lost its flowers, it is appropriate to select Tashiro's specimen as the lectotype. On the other hand there is another of Kuroiwa's specimens collected from Isl. Okinawa, kept in MAK (Kunigami-son, Apr. 1898, H. Kuroiwa s. n., MAK 204994). This specimen helps provide a deeper understanding of this taxon.

**Swertia tosaense** Makino in Bot. Mag Tokyo **17**: 54 (1903).

*S. chinensis* Franch. var. *tosaensis* Makino in Bot. Mag. Tokyo **6**: 53 (1892), nomen nudum.

**Lectotype** (designated here): Prov. Owari (Aichi Pref.): Tashiro-mura, Oct. 29, 1893, T. Makino s. n. (MAK 204913). **Syntypes**: Prov. Mikawa (Aichi Pref.): Takashi-mura, Oct. 25, 1893, T. Makino s. n. (MAK 368766). Prov. Musashi (Tokyo): Nippori, Nov. 5, 1884, R. Yatabe & J. Matsumura s. n. (TI). Prov. Idzumi (Osaka): Kusabe-mura, Oct. 25, 1896, S. Matsuda s. n. (TI). **Other syntypes** (not found): Prov. Tosa (Kochi Pref.): Hirakushi-mura, Oct. 5, 1885, T. Makino s. n.; Tachibana-gawa-mura, Oct. 21, 1885, T. Makino s. n.; Yotsudzi, Oct. 20, 1885, T. Makino s. n.; Kinzyono, Oct. 21, 1885, T. Makino s. n.; Wada near Sukumo, Nov. 4, 1885, T. Makino s. n.; Hirata, Nov. 4, 1885, T. Makino s. n. Prov. Mikawa (Aichi Pref.): Atsumi-gori, Oct. 27, 1893, T. Makino s. n. Prov. Musashi (Tokyo): Shimura, Oct. 30, 1898, T. Makino s. n.

Japanese name: Inu-senburi.

Many of the specimens cited in the original protologue have not been discovered, as stated above. Only two specimens bearing Makino's handwriting are kept at MAK, whilst a further two specimens also cited in the original protologue were found at TI. Of these, the Tashiro-mura collection is regarded as the most characteristic specimen that best matches the original protologue,

and so is chosen as the lectotype.

**Swertopsis umbellata** Makino, Ill. Fl. Jap. **1**(11): 1, t. 66 (1891).

**Lectotype** (designated here): An illustration of t. 66, Ill. Fl. Jap. **1**(11): 1 (1891) drawn by T. Makino.

Japanese name: Shinonome-sô (Makino 1891).

Makino first described this taxon as *Swertopsis umbellata* Makino with an illustration and did not designate any type material. When he transferred this species to the genus *Swertia* at a later date, *Swertia swertopsis* Makino was proposed as a new name, because the combination *Swertia umbellata* Ruiz. & Pav. already existed. The illustration of the original publication was drawn by Makino himself. The drawing includes detailed morphological analyses that represent the taxon very well. For this reason, it is deemed appropriate that the illustration of the original publication is selected as the lectotype.

We are grateful to the curators of MAK and TI for permission to study their collections. We would like to thank Prof. Dr. Tetsuo Koyama for his useful comments. We wish to thank Stephan Gale of the Royal Botanic Gardens, Kew for reviewing the English manuscript.

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#### 田中伸幸<sup>a</sup>, 菅原 敬<sup>b</sup>: 牧野富太郎博士発表学名 のタイプ検討 (4)

この一連の研究は牧野富太郎博士が発表した日本産植物の学名について、タイプ標本およびその関連資料を調査し、必要があればレクトタイプ、ネオタイプの選定を行い、分類群ごとにそれらを整理しようとするものである。本稿ではリンドウ科 8 分類群について検討を行った。*Gentiana ×iseana*, *G. pseudohumilis*, *Swertia bimaculata* var. *impunctata* については、MAK に収蔵されるホロタイプおよびアイソタイプを MAK の標本登録番号とともに整理した。*Swertia kuroiwai* についてはネオタイプの選定を行った。一方、*Gentiana japonica* var. *kawakamii*, *G. yakushimensis*, *Swertia*

*tosaense*, *Swertia umbellata* についてはレクトタイプの選定を行った。このうち、*Swertia umbellata* は、日本植物志図篇の第 1 卷第十一集の 66 図に図とともに記載されたもので、記載文はないが、細部に渡る特徴を描いた図とともに各器官の説明があるため、これを原発表と見なした上で著者自身が描いた図解 (66 図) をレクトタイプに選定した。

(<sup>a</sup>高知県立牧野植物園,  
<sup>b</sup>首都大学東京牧野標本館)